

Amendments to the Drawings:

The attached sheets of drawings include changes to FIGs. 1-7. These sheets replace the original sheets including FIGs. 1-7. An annotated version of the sheets showing changes made is also attached.

Attachment: Replacement Sheets

Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

Claims 1-29 are pending in the application and have been rejected. Claims 1, 19, 28, and 29 have been amended. Applicants respectfully request reconsideration in view of the amendments and the following remarks/arguments.

Drawings

The drawings were objected to for certain informalities. Accordingly the drawings have been corrected.

Specification.

The Office Action objected to the Abstract because of excessive length. Accordingly, the word count was reduced and the abstract was submitted in a separate sheet of paper in Appendix 1 hereto. The Office Action refused to accept the incorporation by reference of an article. Applicant therefore amended, without prejudice, the part of the specification referring to the article.

Rejections under 35 U.S.C. §112, first paragraph.

The Office Action objected to claim 29 because of certain element terms. Specifically, the Office Action found that the terms "always valid," "possibly valid" and "always invalid" were not defined in the specification and were not standard terms. Applicant traverses this conclusion. The meaning of the claim terms is ascertainable by reference to dictionaries. The terms "valid" and "invalid" are well known in the field of information processing. Consider the definition of validation: "the checking of data for correctness, or compliance with applicable standards, rules, rules, and convention." See J. Rosenberg *Dictionary of Computers, Information Processing and Telecommunications*, 2d Ed. John Wiley and Sons (1984, 1987). The adjective "always" is a common term in English that means "at all times." See Webster's New Collegiate Dictionary, G. & C. Merriam-Webster (1979).

Rejections under 35 U.S.C. §112, Second Paragraph.

Claims 1-3, 28, and 29 have been rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 was rejected because the terms "preprocessing" and "compute

information" were deemed as too broad. Applicant respectfully traverses this rejection. The term "preprocessing" is commonly known in the information processing field. Preprocessing is done by a "preprocessor" which is defined as: "Software that performs some preliminary processing on the input before it is processed by the main program." Freeman, *Computer Desktop Encyclopedia*, 9th Ed. (Osborne 1981-2001). Moreover, claim 1 requires that the preprocessing be to compute information to assist in the validation of the document with respect to the second schema. That is a specific application of preprocessing and computing and do not include "essentially any examination function, from a cursory visual scan to a technical analysis in the utmost detail" as the Office Action contends.

Similarly, the rejection of claims 2 and 3 is not warranted. Claim 2 specifies that the preprocessing step comprises comparing the first schema and the second schema to determine relationships between the first and second schemas. Again the relationships are determined to assist in validation of the document with respect to the second schema. The Office Action's contention that the comparison could be from gross analysis of size or colored text to a detailed analysis is unwarranted if those comparisons are not relevant to validation of the document with respect to a second schema. The rejection of claim 29 was discussed above.

Rejections under 35 U.S.C. §101.

The Office Action rejected claims 1-7 and 28 as being directed to non-statutory subject matter. Specifically, the Office Action contends that the rejected claims "are directed to nonfunctional descriptive material in that it is not structurally or functionally interrelated to a computer-readable medium." Claim 1 is directed to a statutory category of invention: a process or method. See 35 U.S.C. §101 which reads: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, **may obtain a patent** therefor, subject to the conditions and requirements of this title.(emphasis added)" Claim 1 is related to functional subject matter because it enumerates various steps that perform tangible functions. The rejection does not identify any non-statutory exceptions to the rule of section 101 that an inventor may obtain a patent for processes (and in fact

the office action admits that the claims do not fall into the exceptions to section 101). Claims 2-7 are dependent on claim 1 and are hence directed to statutory subject matter. Claim 28 is directed to the machine category of section 101.

Rejections under 35 U.S.C. §102.

The Office Action has rejected claims 1-3, 10, 11, and 28 under 35 U.S.C. §102 as being anticipated by Thompson, Henry S., et al., "A Standards-Based XML Schema Implementation Comparison Framework," HCRC Language Technology Group, World Wide Web Consortium (Thompson I). Applicant submits that claim 1 as amended is not anticipated by Thompson I because Thompson I neither teaches nor suggests the claimed preprocessing steps and identifying subsumed element tag-type-pairs. Claims 2-3, 10 and 11 are dependent on claim 1 and are not anticipated for at least the same reasons. Claim 28 includes equivalent limitations to those of claim 1 and is not anticipated for at least the same reasons.

Rejections under 35 U.S.C. §103.

The Office Action rejected claims 4-9, 12-27, and 29 as unpatentable over Thompson I in view of Thompson, Henry S., "W3C XML Schema Test Collection," W3C January 16, 2002 ("Thompson II") and further in view of a subset of test results from Microsoft on complex type elements ("Microsoft"). Claims 4-9 and 12-27 depend on claim 1 and are thus patentable for at least the same reasons as discussed above with respect to claim 1. Claim 29 has been amended to be a computer-readable medium counterpart of claim 1 and hence is patentable for at least the same reasons as discussed above with respect to claim 1.

For the foregoing reasons, Applicant respectfully requests allowance of the pending claims and that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the undersigned at (305) 789-7773 (voice) or (305) 789-7799 (fax).

Respectfully submitted,

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Date: June 7, 2006

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Certificate of First Class Mailing

I hereby certify that this Amendment and Response to Office Action is being deposited with the United States Postal Service with sufficient postage as First Class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450, on this the 7th day of June 2006.

Michael J. Buchenhorner
Michael J. Buchenhorner

Date: June 7, 2006

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```
<xsd:element name="purchaseOrder" type="POType1"/>
<xsd:element name="comment" type="xsd:string"/>

<xsd:complexType name="POType1">
  <xsd:sequence>
    <xsd:element name="shipTo" type="USAAddress"/>
    <xsd:element name="billTo" type="USAAddress" minOccurs="0"/>
    <xsd:element ref="comment" minOccurs="0"/>
    <xsd:element name="items" type="Items"/>
  </xsd:sequence>
</xsd:complexType>
```

(a)

```
<xsd:element name="purchaseOrder" type="POType2"/>
<xsd:element name="comment" type="xsd:string"/>

<xsd:complexType name="POType2">
  <xsd:sequence>
    <xsd:element name="shipTo" type="USAAddress"/>
    <xsd:element name="billTo" type="USAAddress"/>
    <xsd:element ref="comment" minOccurs="0"/>
    <xsd:element name="items" type="Items"/>
  </xsd:sequence>
</xsd:complexType>
```

(b)

Figure 1. Definition of purchaseOrder element in (a) Source Schema (b) Target Schema. The figure shows a fragment of each schema.

FIG. 1



Fig. 2

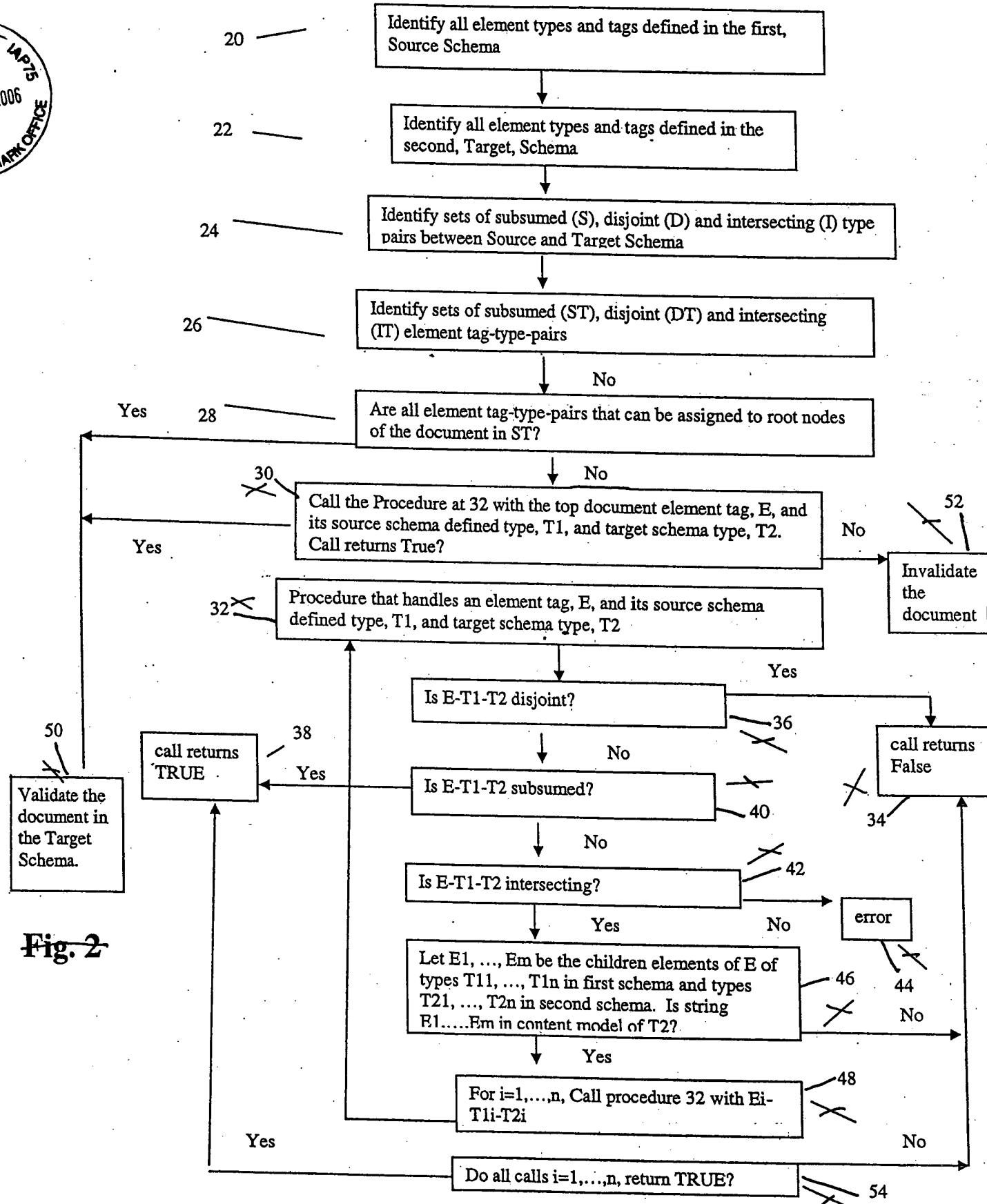


FIG. 2

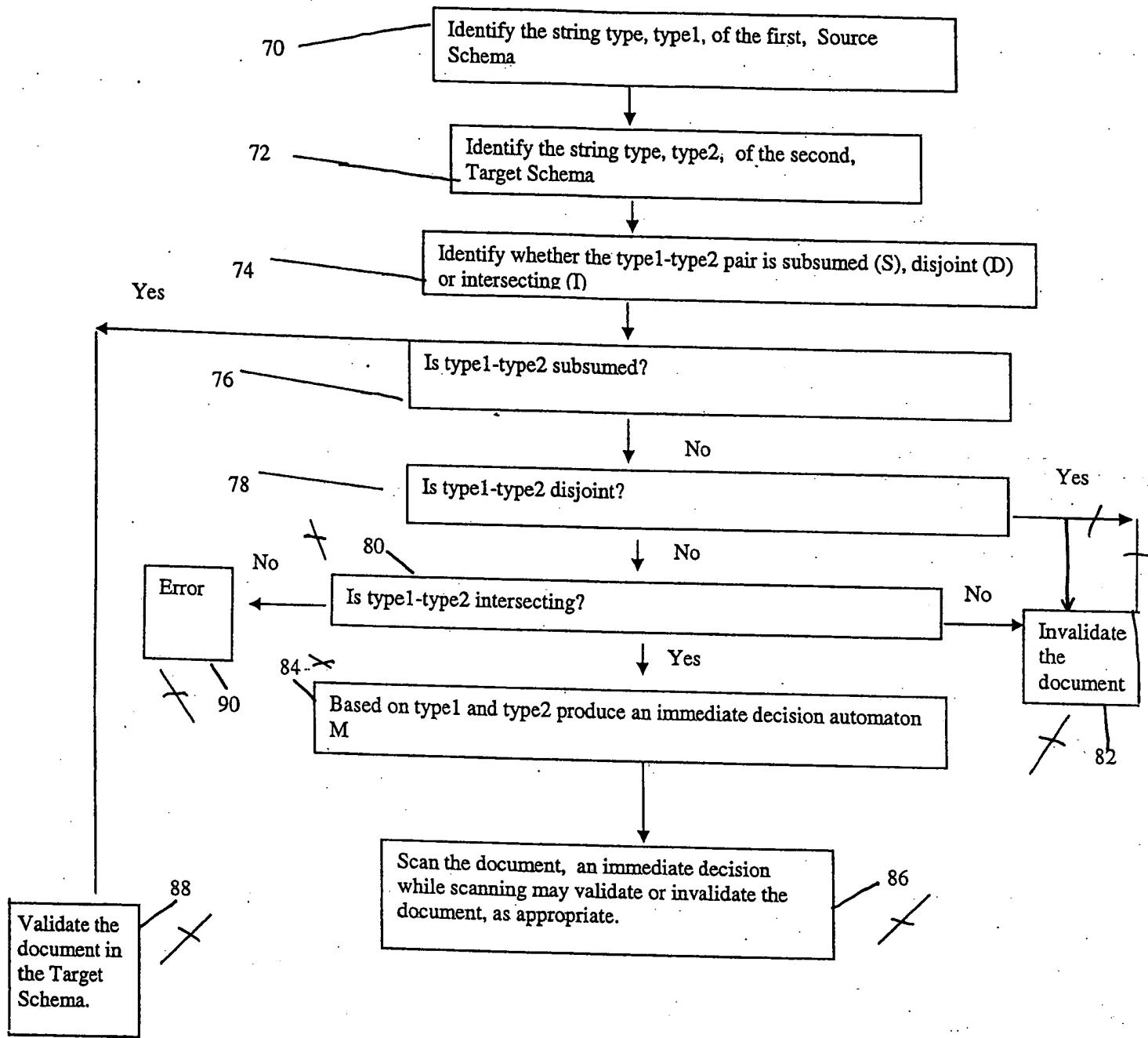


Fig. 3

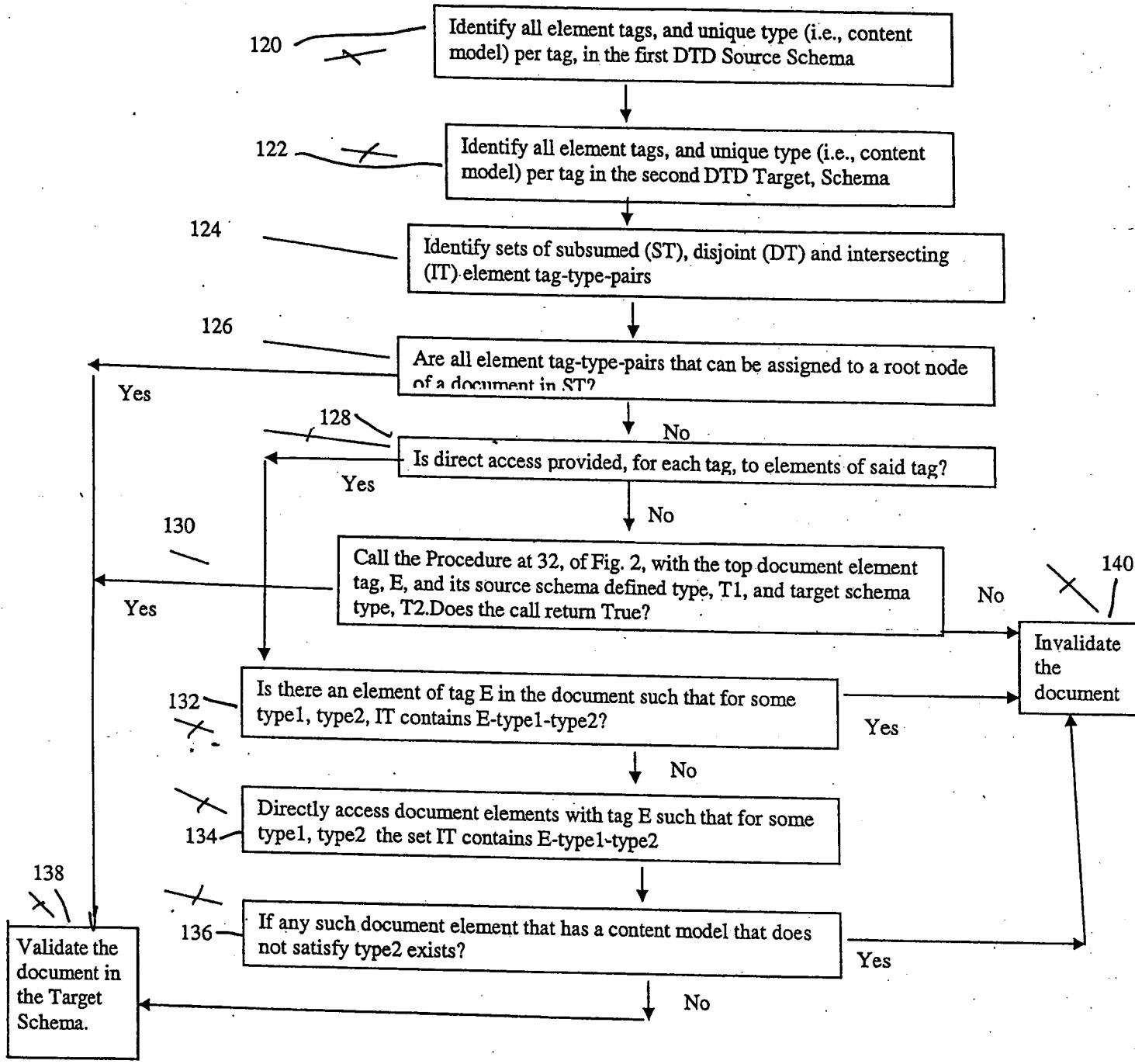


Fig. 4

Fig. 4

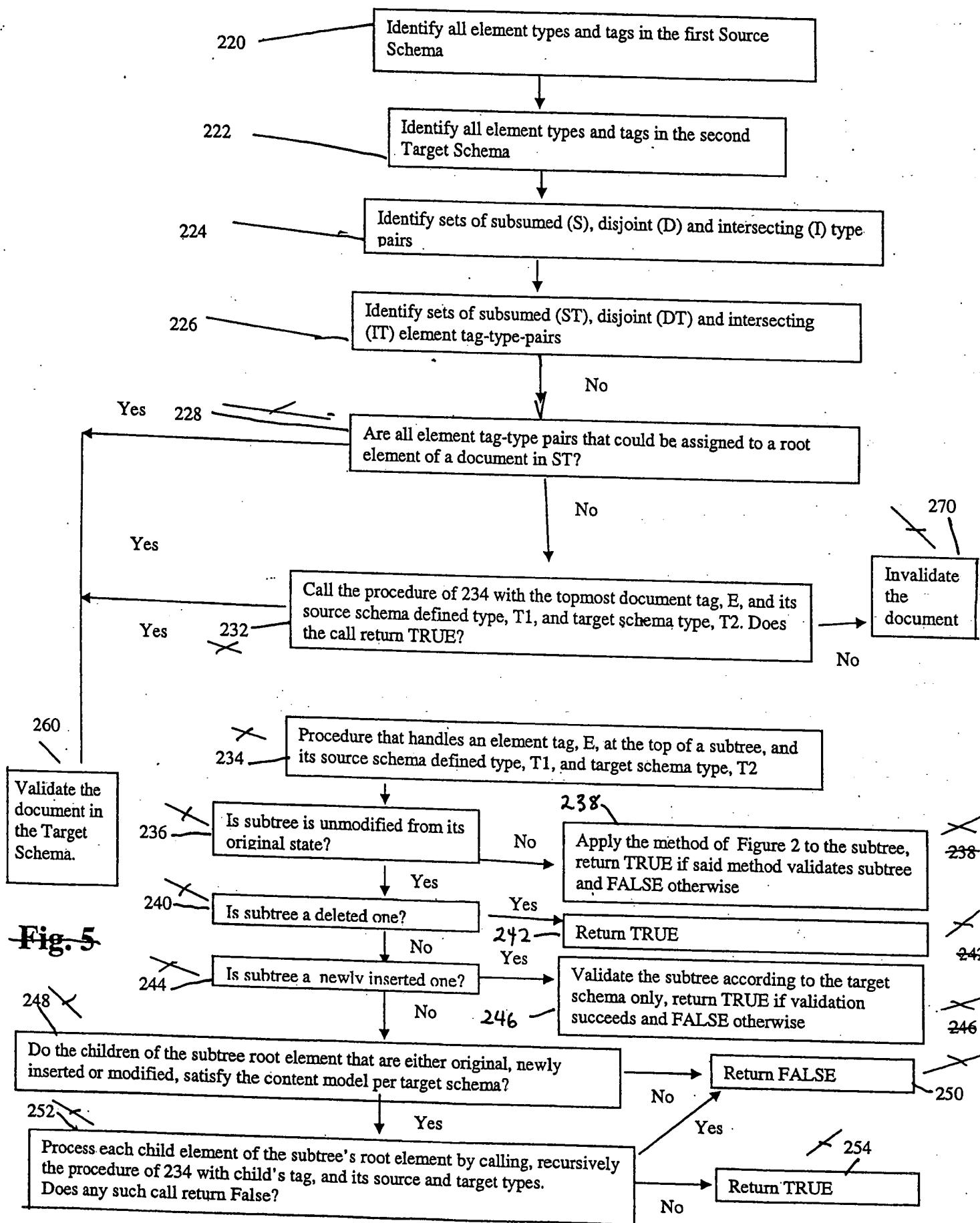


Fig. 5

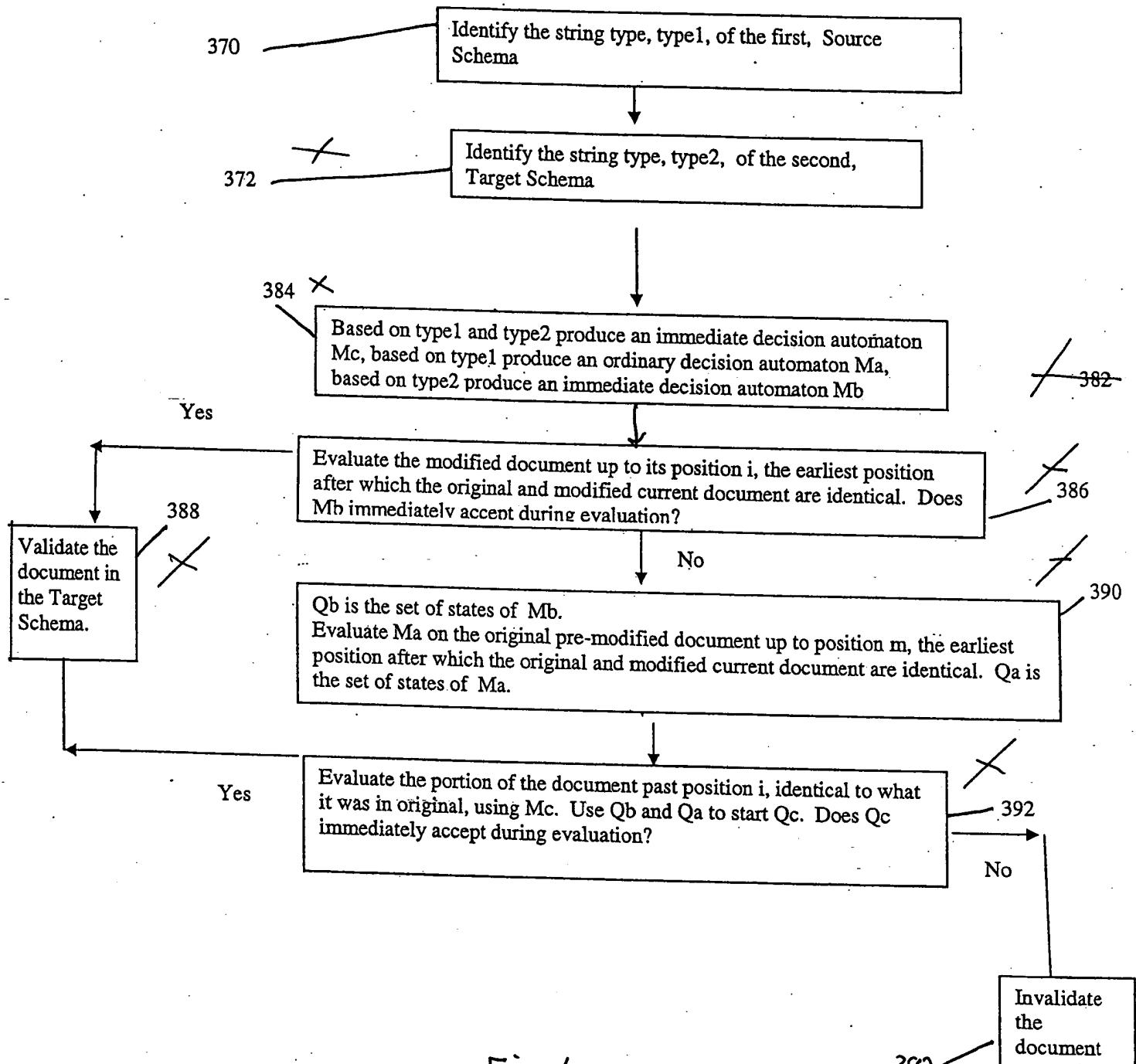


Fig. 6

Fig. 6

No

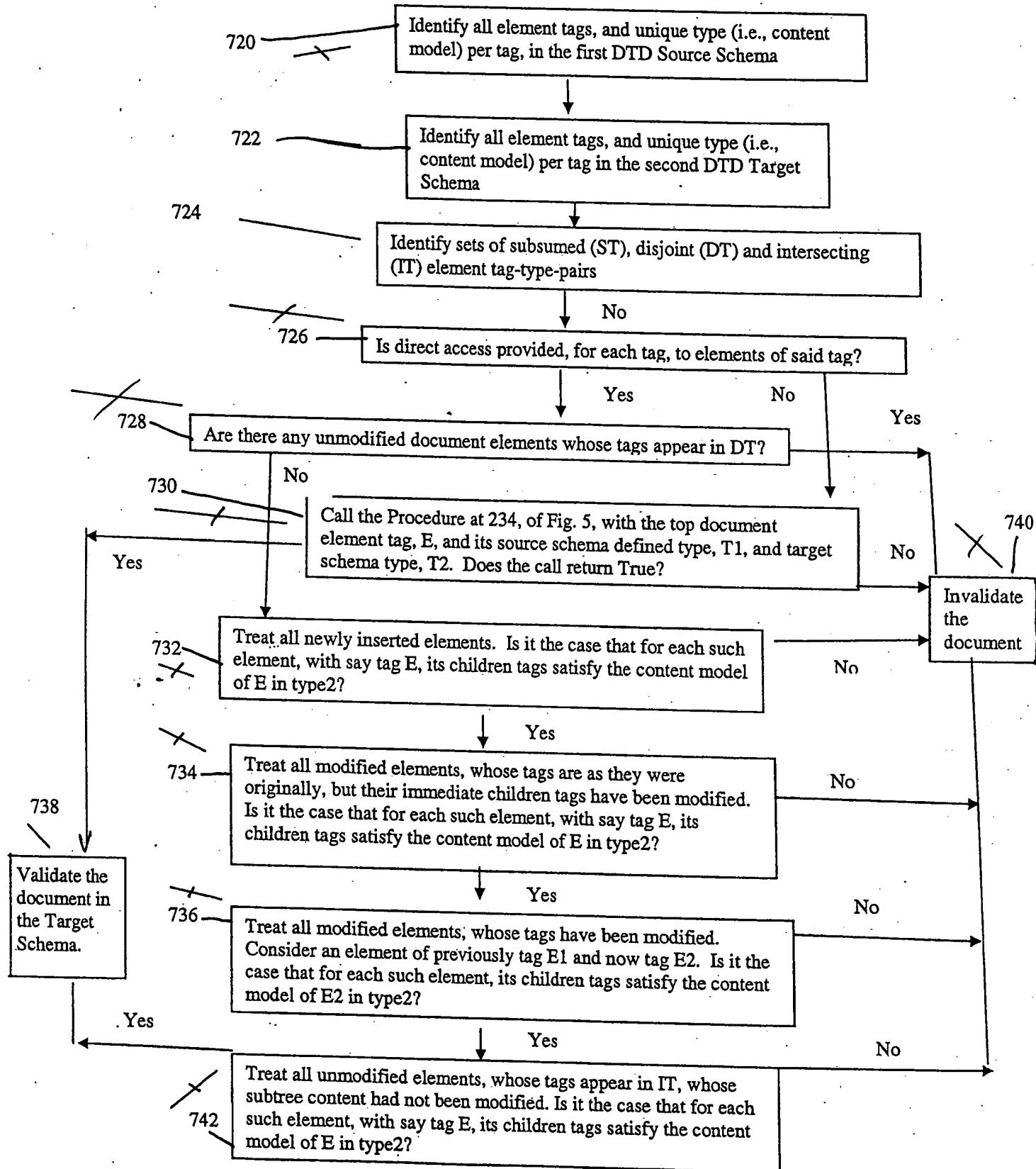


Fig. 7